

841 – Environmental sustainability with synchronous transfer on medium voltage drives

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Abstract: Synchronous Transfer allows multi-motor systems to operate between fixed and variable speeds. Synchronous Transfer control on Medium Voltage Drives, operate motors in a sustainable manner optimizing efficiency. This paper reviews this control on different drive topologies - Voltage source inverters (VSI) and Current source inverters (CSI), operating induction or synchronous motors, with open or closed transitions transferring motors between variable and fixed speed power busses. The control technologies may be in combination of embedded firmware control in the drives or with external discrete synchronizing relays. With a PLC in the drive control system the customer has the ability to interface to their control system remotely or locally through an HMI at the drive control panel. The HMI provides a back-up mechanism for service and diagnostics. The paper summarizes use of synchronous transfer control technology in use with CSI and VSI drives. There are several options for control to allow the users to customize to their unique specific application requirements and integration into the overall system control philosophy for sustainable outcomes.